December 10, 1979

TO: Jim Miller, Resource Specialist
Environmental Enforcement Division

FROM: De Montgomery, Region III Geologist
Resource Recovery Division

SUBJECT: Water Quality Results, Bus White Foundry
Sand Sites, Bridgeport & Taymouth Townships,
Saginaw County

Upon review of the water quality results from the October 22, 1979 sampling of the Bus White Foundry Sand Sites, I noted a distinct similarity of these results with another previous sampling which had been done improperly.

Keck Consulting had conducted background water quality sampling for the Crow Island Landfill proposal for G.M. These results showed high COD, TOC, Oil & Grease, and CCl_2 CH_2 and CCl_3CH_3 on the volatile hydrocarbon gas chromatograph. Since this was in an area that had no disposal activities, the results were suspect. As far as interpretation of the water quality in relation to the groundwater flow direction, no pattern could be established. All the wells indicated high readings except for the first well that was sampled. The sampling procedure was discussed with Keck's crew and it was discovered that an acetone wash had been performed on the equipment. Keck had been instructed to use acetone washings during the Phase II Gratiot County Landfill investigation as a procedure to decontaminate the equipment from PBB. This particular washing method is required only when it is necessary to eliminate cross contamination of unique or relatively insoluable compounds from the sampling procedure.

It was then discussed with G.M. lab technicians, E.R.G., Inc. lab personnel and Dave Long, lead chemist of the VHC unit, DNR Environmental lab, whether an acetone wash would have influence on these analyses. It was confirmed by all these laboratories that unless the acetone wash was performed properly (i.e. sufficient drying time or several rinses) that the results would be inaccurate. It was also stated that the CCl_2CH_2 and CCl_3CH_3 readings on the volatile scan were certainly indicative of possible acetone contamination. Acetone is a solvent that readily mixes with water and could easily contaminate the sample from the bailer. Further samplings at the Crow Island proposed site, using distilled water washings, established the initial sampling to be false.

My December 6th discussion with you confirmed my suspicion that an acetone wash had been performed during the October 22nd sampling.

Review of the Bridgeport Site's well locations and water quality results show little correlation to the groundwater flow direction. In fact, the one well (M-7) which would be anticipated as showing the highest readings, shows relatively low readings. Also the ditch sample results, which I am assuming had no acetone involved in the collection procedure, are radically different from the well sample results.

Therefore, since the sampling procedure is in question, I feel it necessary to disregard these results until confirmed by a proper resampling. I also find it very distrubing that blanks were not run on this sampling nor were sampling times recorded. Running a blank sample, whether it be a blank on the preservatives or of the washing, is basic procedure no matter what the priority of the sampling.

DM:sl

cc: Bob Curry, RRD
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